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New Double Stars. By the Rev. T. E. Espin, M.A.

The Spring has been unusually good for observing; not only have there been a great number of fine nights, but the definition has been, on the whole, excellent. The stars are entirely situated between 30° and 40° N. declination.

No.	B.D.	R.A. 1900.	Decl.	P.	D.	Mags.		Date.	Nights.	
	°	h m	° ′	°	″					
270	35, 436	2 10·4	+36 0	358·8	2·95	9·2	12·0	06·98	2	BC
				343·7	42·35	...		06·98	2	AB
271	34, 459	26·7	34 48	66·4	1·26	9·5	10·0	06·79	1	
272	35, 551	40·2	35 54	77·0	3·55	9·1	10·5	06·83	2	
273	34, 633	3 16·7	35 0	356·4	2·81	9·1	9·1	06·09	2	
274	...	22·1	35 37	142·4	3·18	9·3	9·4	06·11	3	
275	36, 737	36·3	36 49	297·9	3·41	9·3	10·2	06·13	3	
276	37, 819	37·3	37 40	282·8	7·81	8·0	13·8	06·14	3	
277	34, 741	43·8	34 31	289·7	7·40	10·0	14·0	06·09	2	BC
				142·5	30·24	A=	7·0	06·09	2	AB
278	39, 937	4 2·4	39 54	168·8	1·98	7·7	9·2	06·14	3	
279	34, 866	15·9	35 1	242·6	3·24	9·2	11·2	06·82	2	
280	39, 1201	5 4·9	39 49	302·8	3·19	9·0	10·5	06·14	1	
281	40, 1254	13·5	40 13	215·4	2·29	9·0	9·6	06·14	2	
282	...	21·7	33 44	114·6	1·99	9·1	10·3	06·09	3	
283	39, 1407	39·9	39 56	S.	2±	9·5	9·8	06·13	1	
284	37, 1345	46·5	37 24	184·4	4·73	9·0	11·0	06·07	1	
285	38, 1375	59·6	38 55	167·4	2·33	9·0	9·3	06·15	2	
286	39, 1550	6 6·9	39 45	64·0	2·83	9·0	9·5	06·15	2	
287	37, 1476	12·6	37 21	255·5	6·05	9·0	12·5	06·15	1	
288	39, 1600	14·9	39 11	148·9	4·40	9·0	9·3	06·16	1	AB
				273·8	13·42	C=	12·0	06·16	1	AC
289	39, 1825	55·9	39 6	98·9	1·97	9·4	9·7	06·18	2	
290	36, 1606	7 14·4	36 55	312·4	4·74	9·2	10·0	06·10	3	
291	32, 1667	56·4	32 17	343·4	7·12	8·5	10·2	06·19	2	
292	38, 3876	8 4·9	38 24	165·7	2·50	8·5	9·1	06·18	2	
293	32, 1705	10·5	32 34	214·6	4·76	9·0	9·4	06·22	2	
294	36, 1873	42·8	36 31	162·5	1·70	9·0	9·2	06·11	2	
295	35, 1874	42·8	35 21	306·8	3·58	9·1	11·5	06·74	3	
296	36, 1932	9 6·2	36 47	123·3	1·83	11·5	12·5	06·13	2	BC
				174·2	19·88	A=	8·2	06·13	2	AB
297	39, 2241	18·9	39 11	40·1	3·60	8·6	10·7	06·15	2	
298	39, 2242	19·4	+39 2	308·7	7·89	8·8	11·2	06·17	2	AB

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No.	B.D.	R.A. 1900.		Decl.		P.	D.	Mags.		Date.	Nights.	
	°	h	m	°	′	°	″					
298	39, 2242	9	19·4	+39	2	169·9	3·71	10·0	11·0	06·17	2	CD
						318·9	92·17	...		06·17	2	AC
299	35, 2017		25·8	34	56	217·1	4·78	11·2	11·5	06·26	2	BC
						360·0	55·87	A =	9·0	06·26	2	AB
300	35, 2021		27·6	35	36	142·4	2·04	9·2	10·3	06·27	2	
301	40, 2245		36·5	40	45	236·4	4·23	8·7	10·7	06·19	2	
302	37, 2077	10	20·6	36	58	348·4	2·63	9·2	10·7	06·17	2	
303	31, 2212		53·3	31	10	201·4	7·56	9·0	11·0	06·29	2	
304	39, 2399		55·0	39	1	89·1	5·65	9·2	10·5	06·19	2	
305	35, 2230	11	12·0	35	1	31·8	3·83	9·1	9·5	06·26	3	
306	39, 2458		33·0	39	18	341·0	6·76	8·0	11·2	06·25	2	
307	39, 2491	12	0·1	39	24	358·7	4·74	8·0	13·3	06·29	4	
308	32, 2343	13	16·5	32	30	292·2	7·06	9·1	9·1	06·28	3	
309	32, 2381		39·9	32	4	133·9	1·88	9·2	9·5	06·29	3	
310	32, 2382		40·2	31	57	nf	5 ±	9·2	11·0	06·27	1	
311	35, 2619	14	50·2	+34	52	288·5	3·76	8·8	9·3	06·28	2	

Notes.

271. This star was looked at again on February 9, but the condition of the air was then unsteady, and the star was not seen double.

278. A fine object, which so far has escaped detection.

282. This pair was found while measuring S 483. It is 187″ distant from B of S 483 at an angle of 30°·9.

289, 290. Angles discordant.

296. A difficult object found while measuring *h* 2483.

303. Found while measuring Σ 1492, rej. 1m 10s *f.*

307. Found while looking for the missing pair *h* 2595. The *comes* is extremely difficult, and can only be seen by oblique vision.

Elements of Five Long-period Variable Stars.

By A. Stanley-Williams.

As the under-mentioned five long-period variable stars have now been under observation for several years, it seems desirable to bring together the results and to derive from them fresh and more exact elements of variation. Excepting, where otherwise mentioned the dates of the different maxima and minima have been derived from observations made at Hove. Some further particulars of most of these have been published in the *Astronomische Nachrichten* or the *Astronomical Journal.* With the exception of *RU Persei* the minima of all the stars are too faint for observation with a 6½-inch telescope. *Z Lyræ*, however, does not descend much below the *minimum visibile* for this aperture.

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